

Line of Duty Death Investigation Preliminary Report May 22, 2003



FF Oscar Armstrong III
July 22, 1977 - March 21, 2003



CINCINNATI FIRE DEPARTMENT
LAIDLAW INVESTIGATIVE COMMITTEE
PRELIMINARY REPORT

May 22, 2003

The following report is a product of the Laidlaw Investigative Committee. The Committee was formed to ensure that all factors leading to the death of firefighter Oscar Armstrong III would be fully investigated and appropriate actions taken to lesson the chance of similar occurrence. The data contained in this report has been compiled through interviews conducted in conjunction with the National Institute of Occupational Safety and Health (NIOSH) on April 15th and 16th, 2003, as well as investigative efforts of committee members. The contents of this report are the facts of the event as agreed upon by all members of the Team. This report is the preliminary report and is only concerned with the timeline of events of the fire at 1131 Laidlaw Ave on March 21, 2003.

A second more comprehensive report will generated by various sub-committees within the investigation committee. These sub-committees will be open to all Cincinnati Fire Department members for their input and contribution. This comprehensive report will examine all standard operating procedures, training and experience levels of personnel, equipment and technology and many other factors that may be relevant to the Death of Fire Fighter Oscar Armstrong III and the injuries sustained by the other fire fighters. This report will also address the factors to possibly prevent the death or injury to fire fighters in the future. The investigation committee anticipates the comprehensive report may take a year to complete.

Respectfully Submitted,

The Laidlaw Investigative Committee

	<u>Committee Chair</u>
Asst. Chief Chris Corbett	CFD/Fire Prevention Bureau

	<u>Committee Coordinator</u>
District Chief Tom Lakamp	CFD/Training Bureau

	<u>Committee Members</u>
F.A.O. Robert Anderson	CFD/Engine 5
Julie Bissinger	Office of the City Solicitor
F.F. Joseph Cassetta	CFD/Ladder 29
Lt. Mike Cayse	CFD/Training Bureau
D.C. Glenn Coleman	CFD/District 3
Pat Cook	City Risk Management
F.A.O. George Dreiling	CFD/Engine 34
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D.C. Will Jones	CFD/Operations Bureau
F.F. Michael Kirby	CFD/Engine 35
Capt. John Klosterman	CFD/Ladder 19
Lt. Grant Light	CFD/Training Bureau
Lt. Kevin McMullen	CFD/Training Bureau
D.C. Howard Reed	CFD/District 1
Capt. Dan Rottmueller	CFD/Fire Investigative Unit
D.C. Ronald Texter	CFD/Health and Safety
Lt. Dan Wolf	CFD/Fire Investigative Unit
Capt. Michael Zimmerman	CFD/Training Bureau

CINCINNATI FIRE DEPARTMENT
LIDLAW INVESTIGATION REPORT
POST FIRE ANALYSIS

ISSUED: May 28, 2003

SUBJECT: MULTIPLE ALARM FIRE 1131 Laidlaw

BOX ALARM
2553

March 21, 2003

1st ALARM
0845 hours

Engine Companies: 2 & 9
Ladder Companies 2 & 32
District 3

CONFIRMED FIRE
0847 hours

RAT 20
Rescue 38
District 4

2nd ALARM
0853 hours

Engine Companies 32 & 38
Ladder Company 19
Squad Company 52
MAC 1
Rescue 2
Cars 1 & 3

3rd ALARM
0902 hours

Engine Companies 17 & 23
Ladder Company 23
All Command Staff

STRUCTURE

25 X 33 2 Story brick and frame, Cape Cod style.
Approximately 825 square feet per floor.

OCCUPANCY

Single-family residence.

DISCOVERY OF FIRE

911 Call from resident.

DEATHS AND INJURIES

1 Firefighter fatality. 2 Firefighters injured.

EXPOSURES EXTERNAL

None.

FIRE CONDITIONS
ON ARRIVAL

Heavy fire showing from the first floor, B/C,
(south/east) corner of the structure with heavy smoke
showing throughout.

INITIAL ACTIONS

District 4 (District Chief) *:

District-4 was first to arrive on the scene at 0848. District-4 parked on the west side of Corinth at Laidlaw and established Laidlaw command. District-4 then performed a 360-degree size up of the building in a clockwise manner and reported “heavy fire in the first floor rear of a single family dwelling”. (Note: District 3 was initially dispatched on this run, however, District 4 was training with Engine 2 at the time of alarm and placed himself on the run as he was closer.)

Engine 9:

Engine 9 arrived on the scene about one minute after District-4 and went into front suction on the hydrant at 1228 Laidlaw just west of the fire building. Engine 9’s officer (*OIC) and his firefighters took a 1 ¾” hose line from the rear hose bed and advanced toward the front door while the FAO connected to the hydrant. Finding the front door locked they proceeded to take the hose line to the rear of the building along the “D” side yard. Near the “C/D” corner they met with District-4 who instructed them to make entry through the front as the fire was in the rear of the structure. While repositioning the line to the front door, Engine 9’s firefighter #2 broke off to retrieve an axe from the apparatus to force entry. When the crew arrived on the front porch and prepared to enter they were met by E-2’s firefighter #1 who assisted them in making entry. Prior to entering the building, E-9’s OIC called for water over the radio. The door is forced open and all members donned their SCBA in preparation to enter the structure. Engine 9’s OIC called for water a second time and then proceeded to remove his face piece and walked to E-9 to determine the problem and called out to his FAO to start the water. The FAO replied that the water was started and the OIC saw that the line was charged with water, however there was a pile of hose in the bushes that was severely kinked. E-9’s OIC began to flake out the hose and remove the kinks. While Engine 9’s OIC was correcting the water and hose problem, E-9 firefighters #1 and #2 and E-2 firefighter #1 advanced into the structure with the dry hose line and called again for water. E-9’s firefighter #2 returned to the front door to assess the water problem and saw E-9’s OIC stretching out the line and water coming up the hose toward the porch. E-9 FF32 then returns toward the nozzle and informed the crew that water was on the way. At this time the first floor became fully involved in fire and E-9’s firefighter #2 and E-2’s firefighter #1 were able to make their way out of the front door. It is believed that at some point E-9’s Fire Fighter #1 became separated from the hose line. As E-9’s OIC made his way back toward the front porch he witnessed the flashover and saw the two men come out the front door with another member on the porch. Unaware that this third firefighter was the OIC of E-2, the OIC of E-9 assumed all three members that he had left on the porch while he went to un-kink the line had successfully exited. At this time District-4 ordered all members to exit the building and called for all crews to begin setting up for defensive operations.

Ladder 2:

Ladder 2 arrived on the scene about two minutes after District-4. Ladder 2 divided into two teams – L-2 OIC and FF #1 and L-2 FAO and FF#2. Smoke conditions prevented Ladder 2 from seeing exactly which building was on fire until the apparatus passed the fire building and turned south onto Corinth to set up on the “D” side of the structure. L-2’s FAO and L-2’s firefighter #2 began setting up the truck to make access to the roof for vertical ventilation. Once the aerial ladder was placed to the roof, L-2’s firefighter #2 proceeded up the ladder with the chainsaw and cut a large vent hole in the “B/C” portion of the roof, directly over the largest volume of fire. L-2’s FAO completed donning his

Ladder 2 Cont.

fire gear and began to ascend the ladder with a ceiling hook when the first floor flashed over and fire erupted out the “D” side windows and impinged the ladder. At this time the vent hole was cut but the ceiling below had not been penetrated and the L-2 FF#2 is ordered off the roof by District-4.

Upon arrival, L-2’s officer and L-2’s firefighter #1 vented the two windows on the “C/D” corner of the building and moved toward the front along the “D” side to vent windows closer to the front porch. While working on the “D” side, L-2’s OIC and FF#1 noticed a large amount of hose kinked in the yard and spent some time to stretch out the line and work out the kinks. As the crew approached the “D/A” corner, L-2’s firefighter #1 went to Engine 9 and pulled the rear cross lay toward the front door. At this time the first floor flashed over. Just after the flashover, L-2 FF #1 stated that he saw a firefighter still in the building moving through the front of the house toward the “D” side. L-2’s firefighter #1 proceeded to the “D” side yard to see if the fire fighter had exited through a window. As no one exited the window, L-2’s OIC and firefighter #1 prepared to make entry and search for the missing member. Meanwhile L-2’s FAO and firefighter #2 set up for ladder pipe operations, unaware that a firefighter may still be inside.

Engine 2:

Engine 2 arrived on the scene shortly after Ladder 2 and planned to connect to the hydrant that Engine 9 was using as a water supply. Realizing E-9 had secured the hydrant on Laidlaw, and Corinth was blocked by L-2, Engine 2’s crew dismounted and the FAO backed out to Paddock and went around the block and secured the hydrant at 4900 Corinth at Regent. Engine 2 FF #1 went to the front porch to assist E-9 in advancing the initial fire line while Engine 2’s OIC and E-2 FF#2 went to E-9 and pulled the front cross lay. Engine 2’s OIC and E-2’s FF# 2 began to take this line to the rear of the building because Engine 2’s officer thought this might be an exterior porch fire on the “C” side of the building. Engine 2’s officer and E-2’s FF#2 are met at the “C/D” corner by District-4 who instructed them to take the line in the front door and back up E-9. As they near the front of the house, E-2’s OIC heard E-9’s OIC call for water several times and Engine 2’s OIC went to E-9’s pumper to see if he could assist. At this time E-2’s OIC is told by E-9’s FAO that the lines are charged and, looking down, he saw this to be correct and proceeded back toward the front porch. As Engine 2’s officer and E-2’s FF#2 neared the front door and began to mask up, E-9’s firefighters #1 and #2 and E-2’s firefighter #1 had already entered the building. At this time the first floor flashed over and two members on the initial attack line exited the front door with their hose line and their gear burning or smoldering. While assisting the members in the front yard the OIC of E-2 saw another person through the front door in the fire. This individual came toward the front door and then turned and went back toward the rear of the house. Feeling that this must be a firefighter, E-2’s officer took a hose line from the front porch and advanced through the front door in the direction of the victim. Shortly after making entry, E-2’s OIC is joined by L-32’s firefighter #1 and L-2’s OIC and advanced the line.

Ladder 32:

Ladder 32 arrived on the scene three minutes after District-4 and set up on Laidlaw on the "A" side of the fire building. L-32's OIC and firefighter #1 grabbed their tools and proceeded toward the front porch. L-32's FAO and L-32's firefighter #2 set up the apparatus to place the aerial to the roof for vertical ventilation. The flashover occurred very shortly after L-32's arrival and the FAO was forced to swing his ladder away from the flame impingement before making access to the roof. As the flashover occurred the electric service to the house burned through and the wires fell to the front yard. At this time District-4 assigned L-32's firefighter #2 to stand guard over the live wires. L-32's officer and L-32's firefighter #1 also saw the firefighter inside, post flashover, and proceeded into the structure. L-32 FF#1 went with the officer's from Engine 2 and Ladder 2 on the hose line and L-32's OIC performed a right hand search with the thermal imaging camera.

RESCUE EFFORTS

Immediately after the flashover, District-4 requested the second alarm and ordered all members out of the building and off the roof for defensive operations. The apparatus air horns were sounded indicating retreat, however the only fire fighter remaining in the structure is Engine 9 FF#1. (This Fire Fighter is later identified as Oscar Armstrong III) Several members on the scene reported hearing a mayday. At this time, except those that had seen FF Armstrong in the building, everyone thought that the mayday was for the firefighters that had exited after the flashover. District-4 asked E-2 firefighter #1 who exited the building if the mayday was for him, Engine 2's firefighter #1 replied "yes". While companies began setting up for defensive operations and attended to the members involved in the flashover, the members that had seen FF Armstrong still in the building; Engine 2's OIC, Ladder 32's OIC, Ladder 2's firefighter #1 and Ladder 32's firefighter #1 as well as Ladder 2's OIC (who had not seen firefighter Armstrong) began to make entry and perform a search. At this time C-405 arrived on the scene and established accountability and District-4 began to request a PAR to ensure all members were out of the building. (District 4 was not aware at this time that FF Armstrong was still in the building) Crews who witnessed fire fighter Armstrong in the building were now working in the building operating two hose lines as well as searching with and without thermal imagers. A mayday was declared upon locating FF Armstrong and RAT 20 and District-3 were assigned to assist interior crews with search efforts and defensive fire operations were suspended. Engine-32 arrived on the scene and was ordered by District-4 to take a line in the rear door and try to advance to the second floor. This action unknowingly assisted interior crews in their rescue efforts by keeping the fire in check in the kitchen area. FF Armstrong was found in the dining room by members of E-2, L-2 and L-32 and they were joined by members of RAT 20 in moving him to the rear window of side "D" for removal. Once FF Armstrong was removed out the window to the "D" side yard, CPR was begun and R-38 was requested to bring their cot to the scene. FF Armstrong was immediately transferred to the cot and taken to R-38 for transport to University Hospital. Firefighter Armstrong was removed from the building 10 minutes after making his initial entry.

CONTINUING OPERATIONS

A third alarm was requested by Car 1 at 0902, shortly after his arrival on the scene. As the extent of the injuries to FF Armstrong became apparent, all first alarm companies were removed from the scene and sent to Engine 32's quarters for Critical Incident Stress Debriefing (CISD). Second and third alarm companies extinguished the remaining fire on the second floor and checked for hot spots. Once this task was completed the fire companies were removed from the building and the Fire Investigative Unit (FIU) along with members of the Cincinnati Police Department Homicide Unit began investigation and documentation of the scene. Members from the FIU remained on the scene until 2300 that evening and returned at 0800 the next morning to complete their investigation. A fire watch was maintained throughout the night to ensure security of the scene. The "on scene" portion of the investigation was completed and the building returned to the owners at approximately 1800 on March 22, 2003.

ADDITIONAL INJURIES

Engine 9 FF #2 sustained second degree burns to the ears.

Engine 2 FF#1 sustained a hip injury exiting the structure.

COMMENTS

- Crew Integrity

All companies are staffed with four members at all times. Company officers must make every effort to keep companies intact when operating on emergency scenes. All members must remain with their assigned company to allow company officers to maintain accountability. Separating a single member from a crew to assist another crew in a task is not a safe or accepted practice.

- Hose Deployment

Proper deployment of fire lines is vital. The first two attack lines pulled at this fire were severely kinked causing a delay in water to the nozzles. Time must be spent in flaking out the hose while advancing toward a fire to ensure the water is there when needed. Also keep in mind that one attack line was 350' long; (7 sections of 1 3/4" hose), this not only becomes an issue during deployment but, greatly reduces gpm's due to friction loss. Companies should strongly consider using 2 1/2" hose with a wye for hose deployment over 250' or 5 sections.

- Fire Attack

While it is common practice to advance a dry line into a structure when conditions are clear we must never advance into high heat or a smoke filled room before ensuring an adequate flow of water at the nozzle. Fire fighters are instructed not to open the nozzle until the fire can be seen; however, interior conditions must be taken into account before advancement. A short burst of water toward the ceiling of a hot, smoke charged room can reveal information concerning fire conditions. If water comes back down it is considered safe to advance, however, if nothing comes down the room must be cooled before advancing. Remember "A cool ceiling never flashes".

- RAT Operations

RAT 20 arrived on the scene just after the flashover and working to deploy their gear and size up the building as events unfolded. Several members of the crews that advanced to search for FF Armstrong had attended RAT training and used this training to their advantage. All companies that searched found and removed FF Armstrong did an outstanding job under very difficult conditions as can be attested to by the short amount of time taken in removing him from the structure. E-32 stated that upon hearing the mayday their first instinct was to put down their attack line and assist in the search. They continued their attack after remembering RAT training where all companies are taught to continue their last given assignment and allow the RAT team to perform their job. Continued fire attack in relation to search operations protects the search teams and extinguishment ultimately makes the operations go more effectively.

Interventions

Flashover Recognition:

The Cincinnati Fire Department will be receiving a flashover simulator on May 28, 2003 as a result of the 2002 Federal Fire Act Grant. All fire department members will be trained in flashover recognition and prevention and fire behavior.

Hose line length and deployment:

All fire companies have been ordered to carry a maximum of 250' of pre-connected hose per hose bed. Any hose line that must exceed 250' must be preceded by 2 ½" hose and a gated wye.

2 ½" to 1 ½" wye:

All fire companies have been ordered to remove the 2 ½" to 1 ½" wye from all pre-connected hose lines.

Rapid Assistance Team (RAT) dispatch:

The Rapid Assistance Team will be immediately dispatched on the first alarm and not wait for confirmation of a working fire.

This list is not all inclusive and will expand as the Comprehensive Report and Investigation is completed.

WATER SUPPLY*

	<u>LENGTH & SIZE</u>	<u>HYDRANT LOCATION</u>	<u>COMPANY SUPPLIED</u>
A:	20' / 5"	1228 Laidlaw Ave.	Engine 9
B:	125' / 5"	4900 Corinth	Engine 2
C:	425' / 5"	5020 Paddock Ave.	Engine 23

FIRE LINES*

	<u>COMPANY</u>	<u>FROM</u>	<u>SIZE</u>	<u>LENGTH</u>	<u>LOCATION</u>
1:	Engine 9	E-9	1 ¾" Vin.	350'	Front Door/ 1 st Floor
2:	Engine 2	E-9	1 ¾" TFT	250'	Front Door/ 1 st Floor
3:	Ladder 2	E-9	1 ¾" TFT	250'	Ext. Side "A"
4:	Engine 32	E-2	1 ¾" TFT	250'	Rear Door/ to 2 nd Floor
5:	Engine 32	E-2	2 ½"	150'	Ext. Side "C"
6:	Squad 52	E-9	2 ½"	200'	Ext. Side "D"
7:	Engine 23	E-23	2 ½"	300'	Ext. Side "B"

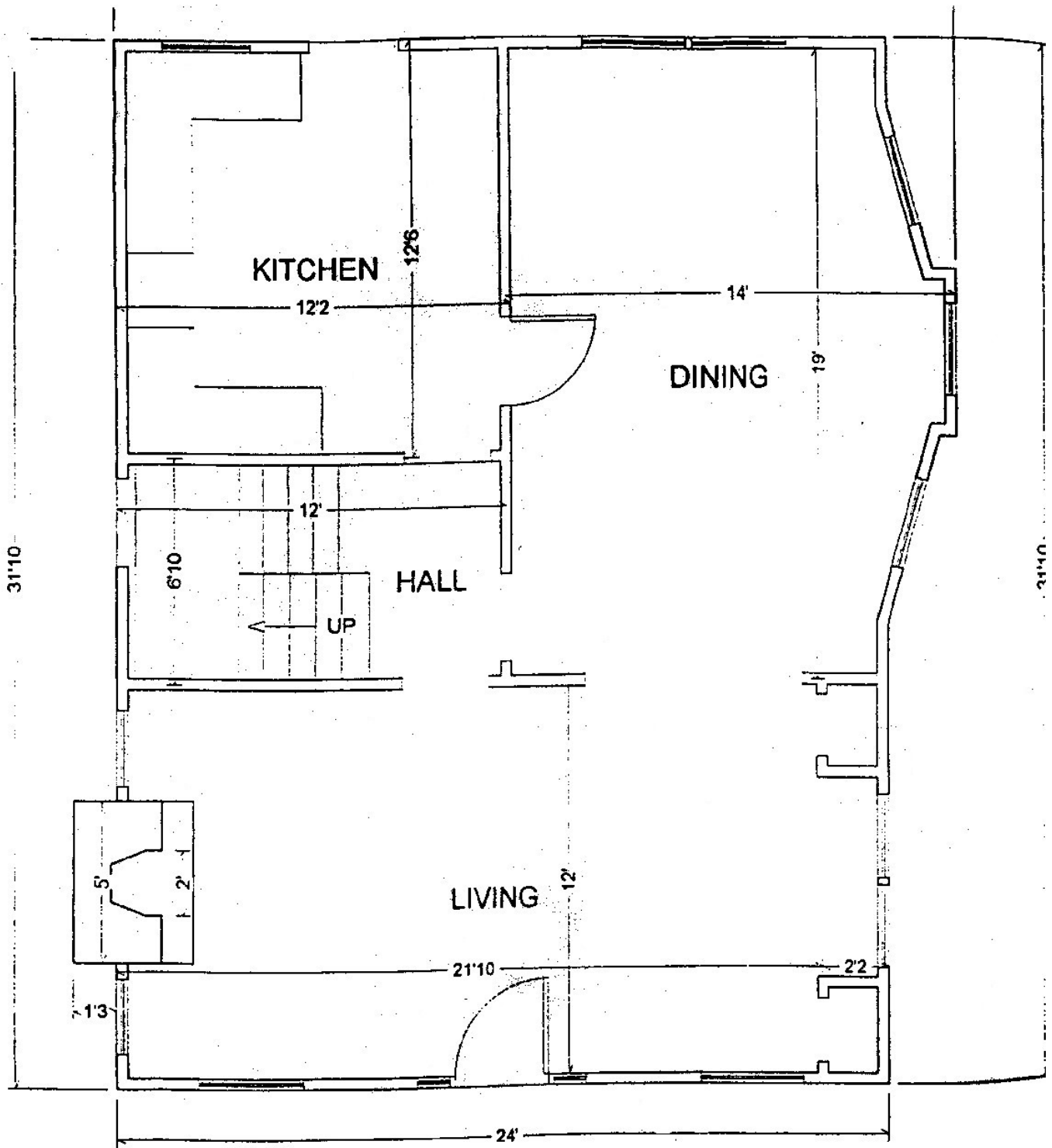
LADDERS

	<u>LENGTH & TYPE</u>	<u>RAISED BY</u>	<u>LOCATION</u>
A:	100' / Aerial	Ladder 2	"D" Side/ Roof
B:	100' / Aerial	Ladder 32	"A" Side/ Roof
C:	100' Aerial	Ladder 19	"A" Side/ Roof
D:	28' / Extension	RAT 20	"B" Side/ 2 nd Floor
E:	28' / Extension	Ladder 23	"C" Side Roof

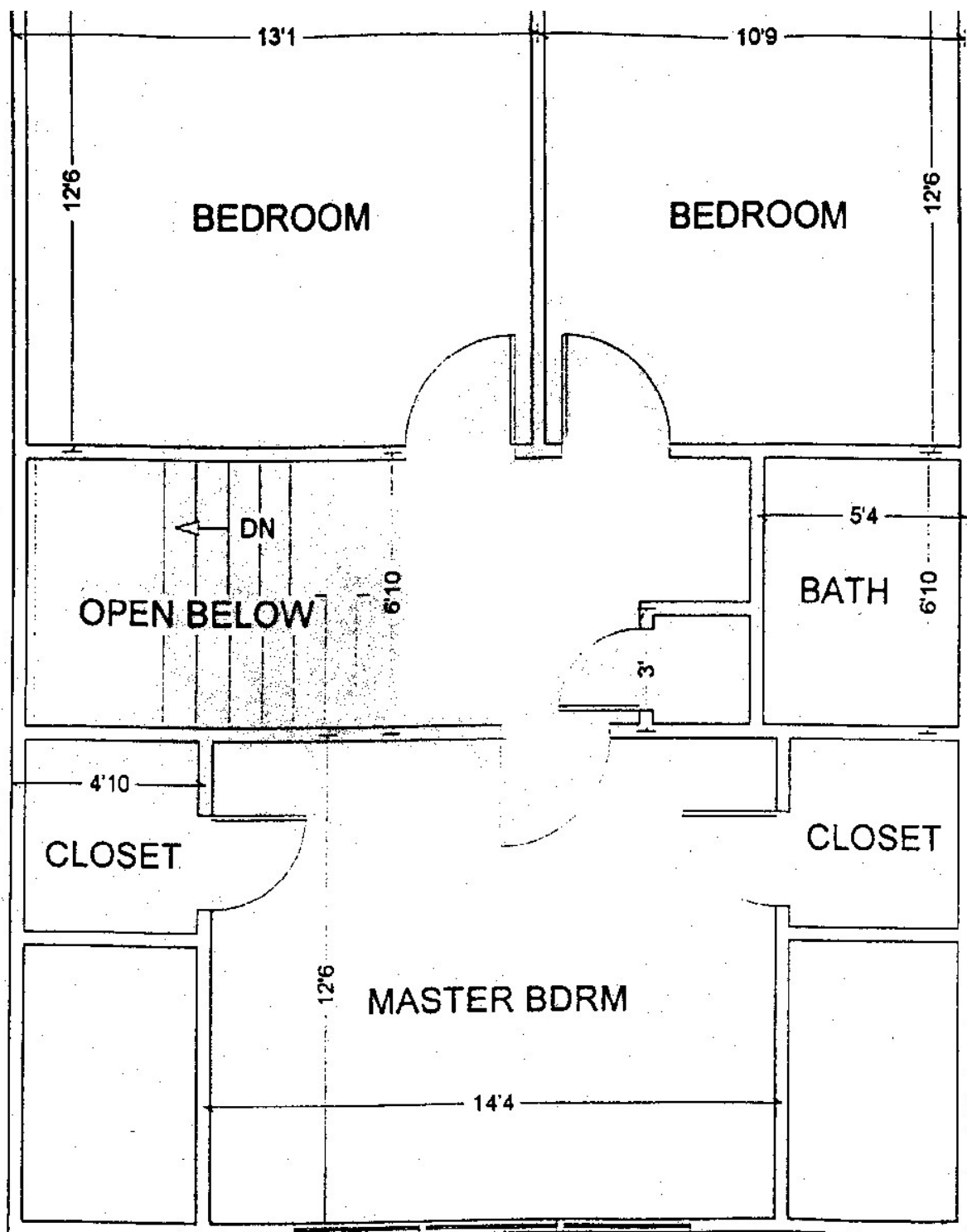
- See Diagram

GLOSSARY

- A,B,C,D: The Cincinnati Fire Department has adopted the method of using letters to designate the sides of a building, thus eliminating the need to know geographic locations on an emergency scene. The Address side of the building is always the A side of the building with B,C,D etc. following in a clockwise manner. This method allows members to respond to orders given on a scene without having to determine which way is north, for instance, in the middle of the night. Therefore the “D” side would be the right side of a building as seen from the front or “B/C” corner would be the left rear etc.
- CISD: Critical Incident Stress Debriefing. This is a process where members involved in a particularly trying incident will meet with a specially trained group of their peers and discuss the actions of the incident. This method allows members to work through the events of the incident very quickly after they occur.
- Cross Lay: A pre-connected bed of 1 $\frac{3}{4}$ ” hose, usually 250’ in length that is mounted just behind the crew cab on an engine company. There are normally two of these on our apparatus, mounted side by side, thus a front and rear cross lay.
- District Chief: There are four fire districts within the City of Cincinnati. Each District is commanded by a District Chief and numbered 1 through 4. The District Chief responds in a S.U.V. to establish incident command at the emergency.
- FAO: Fire Apparatus Operator. The member responsible for the apparatus on a given tour of duty. This person is tasked with driving the apparatus as well as operating the pumps or aerial device on a scene.
- GPM’s: Gallons per Minute. A calculation of the amount of water flowing through hoses attached to an engine company.
- Ladder Pipe Operations: The method of flowing large volumes of water through a nozzle attached to the tip of an aerial ladder. This method is normally used in defensive operations after all crews have been removed from a structure.
- PAR: Personnel Accountability Report. A process whereby the Incident Commander calls all company officers and ensures that all members are visually accounted for on an incident scene. The PAR is used at various times in an incident; when going from offensive to defensive operations, at the 20-minute mark of an incident, after any unexpected occurrence (building collapse, flashover etc.)
- RAT: Rapid Assistance Team. A company of members specially trained in rescuing firefighters in peril. A RAT company is dispatched upon the confirmation of any working fire.
- TIC: Thermal Imaging Camera. A device used by firefighters in searching a structure for victims or hidden fire. These units allow firefighters to “see” through smoke by showing the heat differences in a given space or room.



1131 LAIDLAW
781 sq ft



1131 LAIDLAW 2nd FLOOR
720 sq ft

